

# **Forestry, Agriculture, and BioGas as Offsets**

## **Proposed Regional Cap-and-Trade Program**

*A design for a regional market-based climate program that reduces global warming pollution to promote a thriving economy and protect public health*

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### **Overview**

As part of the Western Climate Initiative (WCI) cap-and-trade program, Washington will participate in creating a strong regulatory offset system for the region. An “offset” is a project that reduces greenhouse gas (GHG) emissions or stores additional carbon in sources that are not included in the cap-and-trade program.<sup>1</sup>

In 2008, the Legislature directed the Departments of Ecology (Ecology) and Community, Trade and Economic Development (CTED) to recommend:

- How local governments might participate in the cap-and-trade program designed by the Western Climate Initiative.
- The circumstances under which generation of electricity or alternative fuel from landfill gas and gas from anaerobic digesters might receive an offset or credit in the program.
- How forestry and agriculture lands and practices might participate voluntarily as an offset or other credit in the program.

Ecology contracted with the World Resources Institute (WRI) to help identify opportunities for local governments, landfill gas, and anaerobic digester projects to participate in a cap-and-trade system.

In addition, the Washington State Department of Natural Resources (DNR), Washington State Department of Agriculture (WSDA), and Ecology established two stakeholder working groups on carbon markets, one for agriculture and one for forestry. Both groups have contributed greatly to the state’s understanding of the issues surrounding these types of projects. Finally, the Climate Action Team’s (CAT) Beyond Waste Implementation Working Group also recommended strategies for anaerobic digestion of compostable organic materials, which has been incorporated into this discussion.<sup>2</sup>

### **Potential projects**

- Collection and combustion of methane from landfills, wastewater treatment plants, or other waste facilities.
- Policies to cluster development in urban or rural growth areas, reducing its size.
- Transfer of development rights (TDR) programs that result in more density in urban growth areas and conserve working forests.
- Local government expansion of urban forests.

- Combustion of methane from the anaerobic digestion of manure or municipal solid waste.
- Improved soil carbon and nitrogen management on both working agricultural and conservation lands.
- Cattle manure management that captures and destroys methane.
- Forestry practices that increase the amount of carbon stored in the forest or in long-lived wood products.

All of these projects need further evaluation and preparation of protocols. As the WCI develops protocols for these offset projects, the state agencies recommend that local industry representatives and members from the Forestry and Agriculture Carbon Market Working Groups continue to advise Washington State and other WCI states and provinces.

## **Agriculture**

The Agricultural Sector Carbon Market Workgroup (ASCMW) reached consensus on several areas where Washington agricultural producers could benefit from a voluntarily offset or other credit mechanism under the proposed regional cap-and-trade system. Additionally, the ASCMW has provided guidance on how to increase the rigor and reliability of the methods for measuring and documenting GHG emission reduction and sequestration projects from:

- Working agriculture and conservation lands.
- Reductions in nitrogen fertilizer use.
- Reductions in methane emissions associated with the anaerobic digestion of manure.

## **BioGas**

Capturing and burning methane from landfills, wastewater treatment plants, and anaerobic digesters for manure management benefits the environment. Methane is a powerful greenhouse gas with a global warming effect 21 times greater than carbon dioxide. Heat from burning methane can produce steam or electricity. We expect that these projects will meet the offset criteria and be eligible to receive an offset credit within a cap-and-trade program.

## **Forestry**

The Forest Sector Workgroup on Climate Change Mitigation met intensively and collaboratively for six months and reached consensus on a series of recommendations for how Washington forest landowners can participate voluntarily in an offset program under a regional GHG cap-and-trade system. They recommended a mix of carbon offset proposals, other carbon incentive proposals, and several related recommendations. The offset and other credit recommendations address:

- Avoided and mitigation conversion of forest land to non-forest uses.
- Urban reforestation.
- Forest management to increase carbon sequestration and storage.

The workgroup discussed several other topics that fell outside the workgroup's scope or about which consensus on detailed recommendations was not achieved.

The workgroup believes these topics should be further developed in other venues due to their indirect forest carbon benefits:

- Improved lifecycle analysis of embodied GHG in building materials, along with a labeling program and potential mitigation options under the State Environmental Policy Act (SEPA).
- Further discussion on guiding foreseeable growth in rural and resource lands.
- Possible creation of ecosystem service districts to formalize mutually beneficial relationships between forest landowners providing ecosystem services and the beneficiaries of those services.
- Funding support for the Washington State Parcel and Forestland Database.
- Incentives for landowners undertaking forest treatments that improve forest health and reduce the risk of uncharacteristic wildfires.

The workgroup did not have sufficient time to develop recommendations on several other priority topics including indirect emissions reductions through energy resource substitution and building material product substitution from forest-derived materials.

## More information

Washington's Climate Change web site  
[www.ecy.wa.gov/climatechange/index.htm](http://www.ecy.wa.gov/climatechange/index.htm)

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<sup>1</sup> For more information on offset criteria and requirements please see [http://www.ecy.wa.gov/climatechange/2008CT\\_reports.htm#101008\\_1](http://www.ecy.wa.gov/climatechange/2008CT_reports.htm#101008_1)

<sup>2</sup> Final Reports of the Carbon Market Work Groups can be found at [http://www.ecy.wa.gov/climatechange/2008FA\\_overview.htm](http://www.ecy.wa.gov/climatechange/2008FA_overview.htm)